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[New Hampshire Code of Administrative Rules](#)
[Env-Ws 373-377](#)

PARTS Env-Ws 373 and 374- RESERVED

[Source.](#) (See Revision Note at chapter heading for Env-Ws 300) #6521, eff 6-4-97

PART Env-Ws 375 DESIGN STANDARDS FOR WATER TREATMENT

Env-Ws 375.01 Adoption by Reference.

(a) Except as otherwise required by these rules, treatment of all public water supplies serving over 1000 people shall be in accordance with the practices and standards set forth in the 1992 edition of "Recommended Standards for Water Works," committee report of the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers, as specified in Env-Ws 307.02 with the following exceptions:

- (1) The forward; and
- (2) The policy statements.

(b) Treatment criteria for surface water filtration shall be as specified in Env-Ws 380. Treatment criteria for corrosion control shall be as specified in Env-Ws 381.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97)

Env-Ws 375.02 Submission of Construction Proposals. All persons proposing to supply water for domestic uses, in accordance with the definition of a public water system as defined in Env-Ws 302, shall not construct any new system or enlarge any existing system without first submitting detailed plans of the proposed construction to the water division and securing its approval in accordance with Env-Ws 370, Env-Ws 372, Env-Ws 375, Env-Ws 376 and Env-Ws 377.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

Env-Ws 375.03 Proposals for Chemical Additives.

(a) No chemical shall be introduced into a public water supply without the specific written approval of the division.

(b) Proposals for chemical additives shall be accompanied by a detailed report and proposed plan for the treatment program.

- (1) The report shall include:
 - a. Compound to be used;

- b. Equipment to be used;
- c. Upper and lower dose limits of equipment;
- d. Present concentration of that characteristic of the water supply;
- e. Facilities available for daily determination of that characteristic content of the raw and treated water; and
- f. Safety equipment available for protection of operators.

(2) The plans shall include:

- a. Plans for equipment;
- b. Location of equipment in relation to other units; and
- c. Point of application.

(3) Design Criteria shall include:

- a. The application of chemical additives shall be made under the positive pressure conditions;
- b. Equipment shall be protected from siphon action with an approved anti-siphon device;
- c. A sampling point, at least 75 feet downstream of the point of injection shall be provided and piped back to the injection station;
- d. Laboratory test shall also be made at appropriate locations in different parts of the distribution systems;
- e. In addition to tests performed by the operator, samples from the system shall be submitted to the state laboratory as required by the division; and
- f. Daily records of testing and dosage shall be maintained as specified by the division and submitted to the division on a monthly basis.

(4) Safety criteria shall include:

a. Treatment systems that add a chemical on a continuous basis, shall have at least 2 of the methods identified in (c), below to prevent a chemical overfeed.

b. The following methods to prevent chemical overfeed shall be acceptable:

1. Connection of the electrical circuit of the chemical feed pump to the electrical circuit of the main water pump;
2. Installation of a flow measuring device with a common disconnect interfaced to the circuit powering the chemical feed pump;
3. Installation of a continuous reading analytical device for that particular chemical feed with a disconnect interfaced to the chemical feed pump; or
4. Any other method for which there is an industry standard.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97)

Env-Ws 375.04 Inspection of Treatment Facilities. Periodic inspection of treatment facilities at reasonable times shall be made by division representatives. The supplier of water shall, upon request of the division, permit or provide access to all parts of the treatment facilities and shall furnish all information and records necessary to complete the inspection.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97)

Env-Ws 375.05 through Env-Ws 375.09 - RESERVED

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97)

Env-Ws 375.10 Disinfection - Chlorination.

(a) Any public water supply system which utilizes surface water as the source of supply shall, as a minimum means of treatment, be provided with suitable chlorination or other disinfection facilities operated and maintained in accordance with the rules of the division. Alternatives to chlorination materials shall be permitted by special approval of the division.

(b) The sampling point shall be at least 75 feet downstream of the point of injection, and piped back to the chlorination station to simplify testing.

(c) Chlorination reliability shall be provided pursuant to the following:

(1) The criteria noted below shall significantly raise the level of chlorination reliability of public surface water supplies in New Hampshire, which lack complete treatment and use hypochlorite:

a. Criteria for public surface water supplies with complete treatment shall be those specified by the, "Recommended Standards for Water Works," specified in Env-Ws 375.01;

b. When new chlorination facilities are installed or substantially modified, the flow measure and chemical feed functions shall be installed in duplicate. Systems with infiltration wells and other types of groundwater supplies that require chlorination shall not be required to have duplicate chlorination facilities;

c. When 2 or more failures of any part of the chlorination system have occurred within a running five-year period beginning January 1, 1984, as determined by division routine staff inspections and/or as reported, a total revamping of the chlorination system to include duplication of flow measuring and chemical feed functions shall be required. This revamping shall be completed within 6 months after the next regularly scheduled town meeting;

d. In those cases where "flow tubes" are used to measure flow, each system shall demonstrate, to the satisfaction of the division staff, that the devices function accurately at extremely low flow. Otherwise, these devices shall be replaced pursuant to the requirements herein;

e. For all single or compound meters that have internal moving parts in contact with the water; - that is all gears, shafts, bearings, seals, etc - inside the meter, shall be available as duplicate spare parts. The water system shall keep on hand in storage at chlorination building a complete set of these parts to allow immediate in-the-field repair of the meter. Those spare parts in inventory, if used, shall be replaced within 2 months. The water system, shall certify in writing that the spare parts inventory is complete, in accordance with a parts list supplied by the manufacturer;

f. Where electrically-powered devices are used, automatically started stand-by power or battery pack and rectifier with at least a 12-hour capability shall be provided. Systems with a pumped water supply source shall not be required to have standby power for chlorination purposes only. Treatment plants that are continually manned shall not require separate standby power;

g. Working daily chlorine storage shall contain the equivalent of 3-days of chlorine use. All active chlorine storage tanks shall be interconnected at the bottom and not by syphon. A 30-day supply of chlorine shall be on hand at all times. If a high degree of delivery reliability can be demonstrated, less chlorine storage may be allowed;

h. Chlorine storage shall be at such an elevation that positive pressure shall exist on the suction side of the chlorine feed pump unless specifically restricted by the manufacturer;

i. A chlorine residual of not less than 0.2 mg/l, either total or free, shall be maintained at the median point in the distribution system;

j. An electrically-driven non-proportional chemical feed pump for emergency shall be purchased and stored in the chlorination building.

(2) The criteria noted below, shall significantly raise the level of chlorination reliability for public surface water supplies in New Hampshire which lack complete treatment and use gas chlorination:

a. Criteria for public surface water supplies with complete treatment shall be as specified by the, "Recommended Standards for Water Works," as specified in Env-Ws 375.01;

b. In those cases where "flow tubes" are used to measure flow, each system shall demonstrate to the satisfaction of the division staff that the devices function accurately at extremely low flow. Otherwise, these devices shall be replaced as specified in the requirements herein;

c. Chlorination for both domestic and fire flows shall be in duplicate, on-line and in parallel. Systems with infiltration wells and other types of groundwater supplies that require chlorination shall not be required to have duplicate chlorination facilities;

d. In so far as the flow measurement is concerned, when 2 or more failures have occurred within a running 5-year period as determined by division routine staff inspections and/or as reported, a revamping of the flow measuring function to achieve duplication shall be required. This revamping shall be complete within 6 months after the next regularly scheduled town meeting;

e. Where electrically powered devices are used, automatically started stand-by power or battery pack and rectifier with at least a 12-hour capability shall be provided. Systems with a pumped water supply source shall not be required to have standby power for chlorination purposes only. Treatment plants that are continually manned do not require separate standby power;

f. Duplicate and independent scales and duplicate feed manifolds shall be provided such that during tank change-over, one chlorine system shall always be in operation;

g. Chlorination feed shall be proportional to flow. Each chlorine sub-system shall provide 50 percent of total chlorine feed;

h. Booster pumps shall be in duplicate;

i. A 30-day supply of chlorine shall be on hand at all times. If a high degree of delivery reliability can be demonstrated, less chlorine storage shall be allowed; and

j. A chlorine residual of not less than 0.2 mg/L, either total or free, shall be maintained at the median point in the distribution system.

(d) Operation of chlorination shall be continuous and proportional to flow, operating 24 hours a day, seven days a week throughout the year. Care shall be taken that gas cylinders or solution tanks are not permitted to run out before switching to the stand-by cylinder or refilling the tank.

(e) Records of at least daily tests for chlorine residual shall be made by the operator and the results thereof recorded on "Monthly Report for Treatment" forms provided by the division. Should the residual be less than the required minimum, the operator shall increase the feed rate of the equipment until the proper residual is achieved. In such a case, the residual prior to adjustment as well as the final residual shall be recorded. The monthly report shall be forwarded to the division by the 10th of the following month. Where more than one source is treated and where there is a separate chlorinator for fire flows, a separate record shall be kept

and submitted. In addition to the residual test results, meter readings or daily consumption and the amount of chlorine gas or hypochlorite solution used shall be recorded. The record shall be in ink and legible.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

Env-Ws 375.11 Quality of Products and Workmanship. Where applicable devices, products, and methods used in water works design, installation, construction, and operation shall meet the specification criteria of the American Water Works Association, as required by Env-Ws 307.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

PART Env-Ws 376 GENERAL DESIGN STANDARDS - DISTRIBUTION

Env-Ws 376.01 Adoption by Reference.

(a) Except as otherwise required by these rules, design of water distribution systems for all public water supplies serving more than 1000 people shall be in accordance with the practices and standards set forth in the 1992 edition of "Recommended Standards for Water Works," committee report of the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers, as required in Env-Ws 307.02 with the following exceptions:

(1) The forward; and

(2) The policy statements.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

Env-Ws 376.02 Pipes Requiring Sealcoats.

(a) All replacements, extensions or new installations of water pipes in public water supply systems involving the use of cement asbestos or other pipe lines with cement shall be provided with a bituminous seal coat on the inside surface.

(b) The seal coat shall be so applied as to conform with the requirements as outlined in the "American Standard Specifications for Cement Mortar Lining for Cast Iron Pipe Fittings."

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

Env-Ws 376.03 Quality of Products and Workmanship. Where applicable devices, products, and methods used in the water works design, installation construction, and operation shall

meet the specification criteria of the American Water Works Association, as required by Env-Ws 307.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

PART Env-Ws 377 GENERAL DESIGN STANDARDS - STORAGE

Env-Ws 377.01 Adoption by Reference.

(a) Except as otherwise required by these rules, design of water storage tanks for all public water supplies shall be in accordance with the practices and standards set forth in the 1992 edition of "Recommended Standards for Water Works," committee report of the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers, as required by Env-Ws 307, with the following exceptions:

(1) The forward; and

(2) The policy statements.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97

Env-Ws 377.02 Quality of Products and Workmanship. Where applicable devices, products, and methods used in the water works design, installation, construction, and operation shall meet the specification criteria of the American Water Works Association, as specified in Env-Ws 307.

[Source.](#) (See Revision Note at chapter heading Env-Ws 300) #6521, eff 6-4-97